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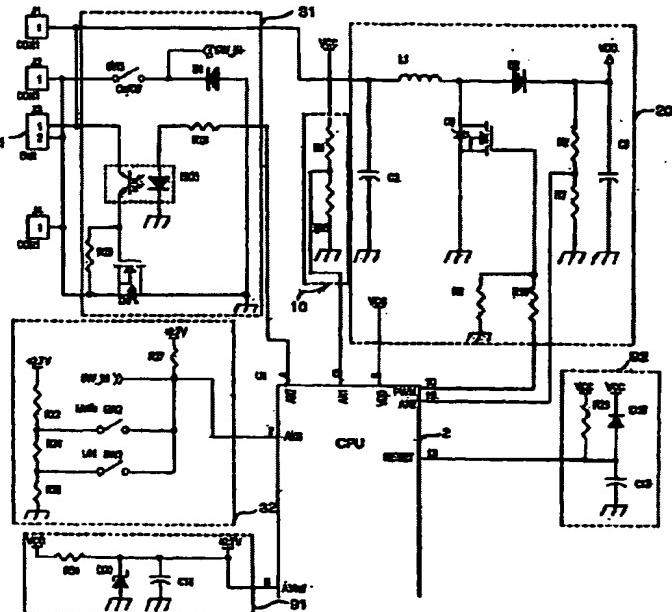
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(54) Title: **ADVANCED HANDABLE SKIN CARE DEVICE AND OPERATING METHOD THEREOF**



(57) **Abstract:** An apparatus for maintaining and supplying stable power to a skin care device comprising a DC-DC converting unit (20) for escalating the voltages from a charged battery power source (1), a skin-stimulating unit (50) with a supersonic element or an ion-inducting element, a switch unit (30) having a main switch (SW1) and various functional switches, an LCD display (40) for indicating various operating modes, a CPU (2) for controlling each component, a main switch initiating unit having a function when the main switch (SW1) is turned on, the CPS is activated by a switching signal inputted to an analogue input port from said CPU, the first switch unit (31) is activated by the CPU through an analogue output port, then the FET (D4) is switched to supply battery power to the DC-DC converting unit (20), and a function of the PWM control signal, which prolongs the switching-on stage for gradually increasing the voltage up to the operating voltage during the step-up stage, and inversely shortens the switching-off stage for gradually decreasing the operating voltage during the step-down stage. A strength-adjusting switch (SW3) for controlling the strength of output voltage of the DC-DC converting unit (20),

and a mode switch (SW2) for operating various modes of supersonic vibrations controlled by each vibrating frequency. An LED display being equipped with a minimum number of connecting pins for indicating various operating modes. Each LED is independently activated to turn on and off according to each signal of the input-output terminal from a controlling unit of the CPU.

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